

Pre use



EasyShare
Product report

Title page

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3

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Contents

Title page	2
Contents	3
As a service	5
Values and visions	6
What is EasyShare?	8
The target group	9
Booking service	10
System	19
Use case booking	20
Units and actors of EasyShare	24
Outsourcing	26
Input/Output	27
Conclusion	30
As a service	30
As a system	31

Introduction

The product report presents the outcome of EasyShare, a project concerning a booking service for the car sharing company Hertz Delebil in Aalborg. The product report describes the information about EasyShare that is necessary for Hertz Delebil to know to understand the concept of EasyShare.

The report is divided in two main parts where the first part describes EasyShare as a service from the perspective of the user and afterwards the system behind the service from the management point of view.



SE



Service

This section describes EasyShare as a service from the user point of view. The concept of EasyShare is described through usecases and scenarios. To point out the main differences between the existing service of Hertz Delebil and EasyShare the services is compared through user cases. Furthermore the guidelines for the interface of the EasyShare device is illustrated.

RVIC E



Values and visions

The spread illustrates the intended values for the service and the visions for interaction through images and sentences.

FREEDOM



RELIABLE



RELATIONSHIP





FAMILIAR



GUIDING



TRUST

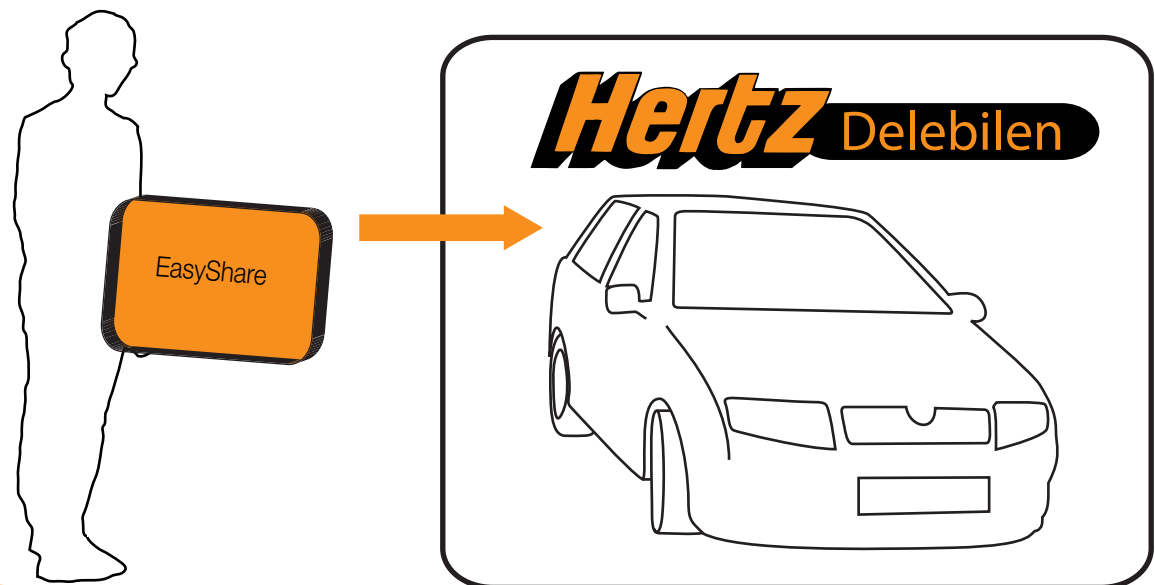
What is EasyShare?

The chapter includes a short introduction to EasyShare and the main purpose of the service.

8 EasyShare is an extra service of Hertz Delebilien which is targeted at elderly. The goal of EasyShare is to make it simple for the elderly to use car sharing. The improvement is sought to be throughout the phases of booking, using and post-use situations, where the user interacts with the company in various ways. EasyShare is in the report mainly described through the scenario of booking and navigating to a car.

The primary touch point of EasyShare is a terminal which can be applied to the users own mobile phone, a PDA or a device can be rented or bought through Hertz.

The intentions of introducing EasyShare to Hertz Delebilien is to make the car sharing service accessible and available to the elderly group of the society and hereby increase the amount of users of Hertz Delebilien.



ill. 2.1. The concept of EasyShare.

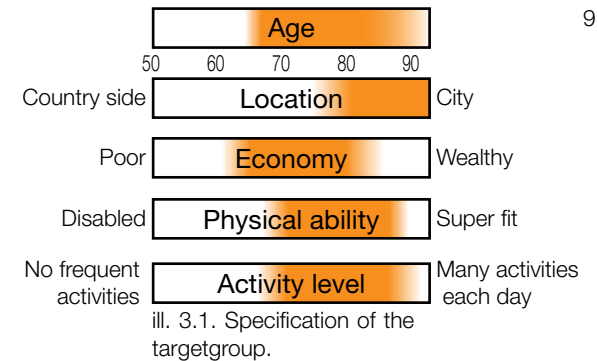
The target group

The target group of EasyShare is defined through a main and secondary target group.

Throughout the project, the target group has been defined through a series of factors (ill. 1.3.1) where it is implicit that there could be a need for car sharing. The main target group is defined as the group of elderly that are retired and have a need for car sharing. Needs could consist of not having to use a car often, financial situations, maintenance problems. The insufficiencies of public transportation in terms of the flexibility of departure, distance, capacity and routes of travelling could also motivate such a need. The target group does however depend on the freedom of a car to be able to maintain their social activities and the quality of life in their every day doings.

Hertz Delebilen involves a series of complicated actions to complete a booking procedure, locate a car or using the car. EasyShare has been designed to make these steps easier using simplification of the existing procedures. This simplification could be beneficial for several other users than the main target group. A broader secondary target group therefore exists.

An example could be a 45 year old woman, who has problems using the existing solution. She wants to use the service, but finds it complicated. EasyShare could make an improvement of her use of the service.

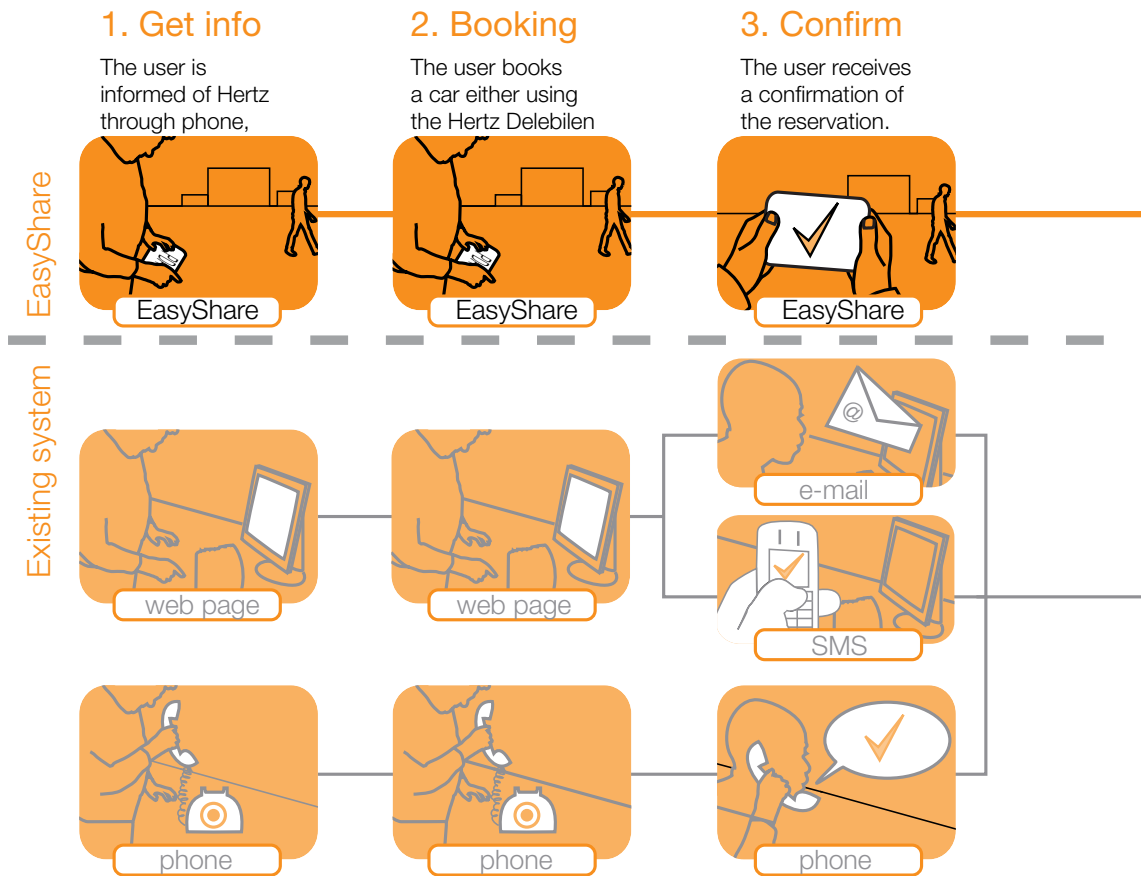


Booking service

The chapter describes the actions of using EasyShare from the user point of view.

10 At the following page EasyShare is described step by step of how to use the service starting from booking a car to paying for the service. EasyShare is described along with the existing system to show how the service differentiates from the existing service of Hertz.

The primary objects that the user interacts with are highlighted in the diagram by white color.



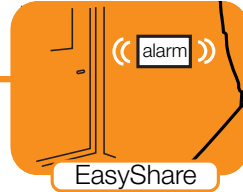
4. Plan Trip

The user plans how and when to get to the car.



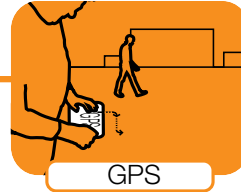
5. Departure

The user waits for the time of departure and EasyShare can notify



6. Navigate to car

The user locates and navigates to the Hertz parking spots.



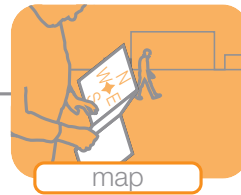
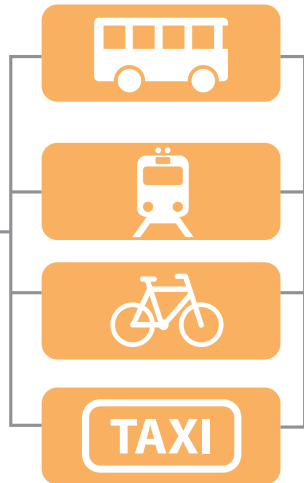
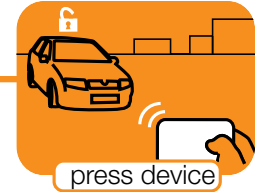
7. Locate car

The car is parked between private cars and has to be located



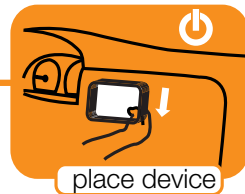
8. Unlock

The user unlocks the car.



9. Activate car

The car is activated by the user.



place device

10. Drive

The device can be used as a regular GPS during the driving.



GPS

11. Return car

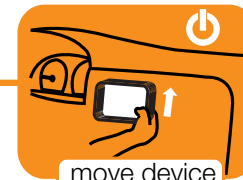
The car has to be parked at the Hertz parking spot again after use.



Hertz parking

12. Deactivate car

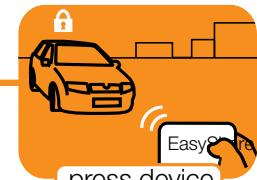
The user confirms the end of the ride.



move device

13. Lock car

The user lock the car.



press device



pincode



navigation



press end of ride



slide key car

14. Overview

Information about the account status of the user can be reached



15. Payment

It is possible to pay right away or by PBS.



ill. 4.1. Usecase of EasyShare and the existing service of Hertz Delebilen.

Areas of improvement

EasyShare offers the users various benefits which are highlighted on these pages.

- 14 This is done by illustrating various situations from the user case where an elderly person is interaction with EasyShare.

The four photos here are not presenting a picture of the entire system and functions of EasyShare, but a cutout from a typical booking procedure with EasyShare. This is done to show some of the important differences compared to the existing booking system of Hertz Delebilen and the advantages that EasyShare can offer to the users.

Book a car anywhere - anytime



ill. 5.1. EasyShare as a booking device.

EasyShare allows for the user to book a car using their own mobile phone or PDA. This way the users can access the booking system in any location at any time.

Navigation to the car



ill. 5.2. EasyShare as a navigator.

EasyShare also guides the users to the cars, using GPS and Rejseplanen to ensure the shortest and fastest route from the users current location directly to the booked car.

Unlock the car



ill. 5.3. EasyShare as a car locator.

When the car is within range, EasyShare activates the lights to make it easier to find. Furthermore the car is easily unlocked using EasyShare, and the car is ready to go.

GPS information



ill. 5.4. EasyShare as a navigator.

EasyShare can be programmed like a regular GPS. Gastanks and routes are marked on the map, so the users can easily spot them while driving and get free gas if the tank needs to be filled.

Conclusion and differences

These benefits are a result of a more dynamic and mobile service platform. Compared to the current booking system that is only available through the internet or phone, this allows for the users to bring EasyShare around when leaving the home and assist them when booking.

After the booking has been done, the existing booking service does not provide further information.

The EasyShare service however, is still active and is now assisting the user in getting to the car. As it is GPS enabled and connected to Rejseplanen it can lead the user all the way to the reserved car.

At the car, EasyShare contains several of the functionalities that were previously distributed on several items such as keycards, pin codes and car keys. This makes it easier for the users to administrate, so they do not have to carry around keycards if they decide to book a car.

Interface

This chapter presents the specifications of the interface for how the flow and the controls of the device-interface can be organized.

16 The interface is the visible part of EasyShare from the user point of view. The illustrations shown in this chapter are to be considered as a guideline for the interface, in terms of arrangement of controls and information given at specific points in the booking procedure. The illustrations do not present the final interface.

To make room for the information and make the booking simpler, this procedure has been divided into several steps.

At each step a forward, back and cancel button is placed to create a consistent interface. The buttons are placed based on their functionality so that the location appeals to the intuition of the user. The lines go from the action to the resulting page to illustrate choices in the scenario (e.g. the "Reserve now" button on fig. 2-a goes to the "back" button on fig. 2-b).

The controls have been designed based on the environment of the elderly to resemble familiar mechanisms that they know how to interact with.

During the entire procedure, a virtual person is present in on the screen. The virtual person can assist the user when activated and gives audio/visual feedback of the current step or throughout the booking procedure. The character is video-animated to give the users a feeling of guidance as from a real person.

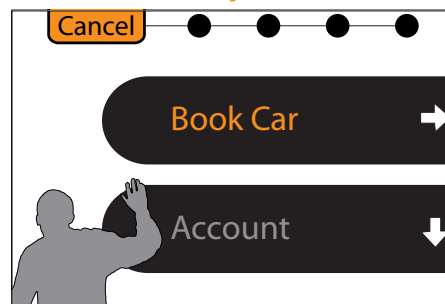
1. Welcome

When EasyShare is entered the system welcomes the user.

User is then presented with the choice of booking a car or having an overview of their account.



1-a

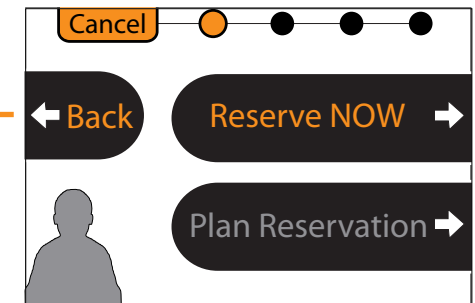


1-b

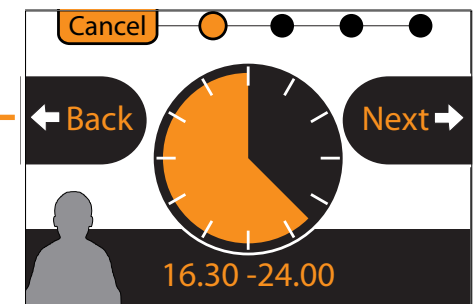
2. Time of booking

When booking a car the user can choose between reserving a car right away or planning a date for the reservation.

The Reserve Now, leaves out many options to make the booking as simple and fast as possible.



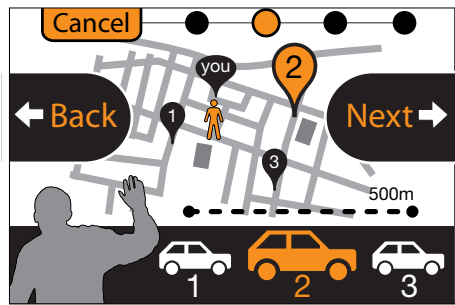
2-a



2-b

3. Choose car

The user must now select the type of car they want to use. This is done with a map to show which available cars are nearest by.

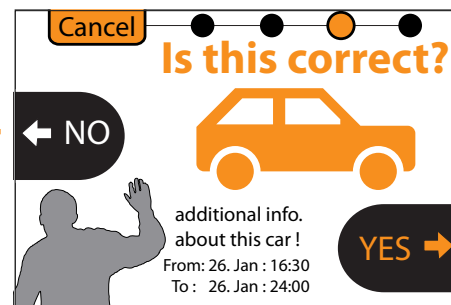


3-b

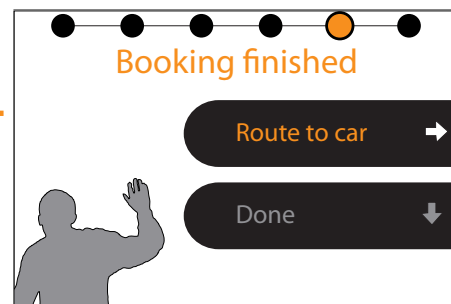
4. Confirming

The user has to confirm the choices of the reservation.

When this is done, the user has the option of having a route to the car generated or quitting the booking session.



4-a

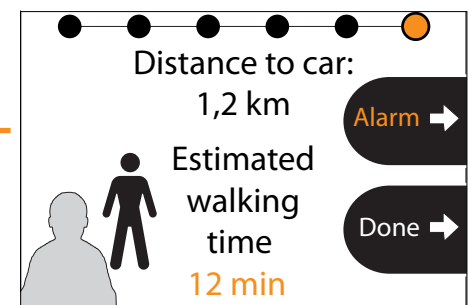


4-b

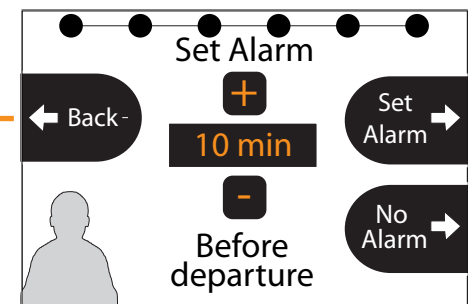
5. Planning

Planning happens automatically and the system suggests a way of getting to the vehicle based on the user and car location.

The user can also choose to have a reminder for when to go if EasyShare suggests taking a bus or so.



5-a



5-b

END

SYSTEME



EM

System

The last section describes the structure of EasyShare as a system. The system behind the service is presented using cases and diagrams of Hertz after the implementation of EasyShare. This part also concerns a strategy for implementing and launching the service.



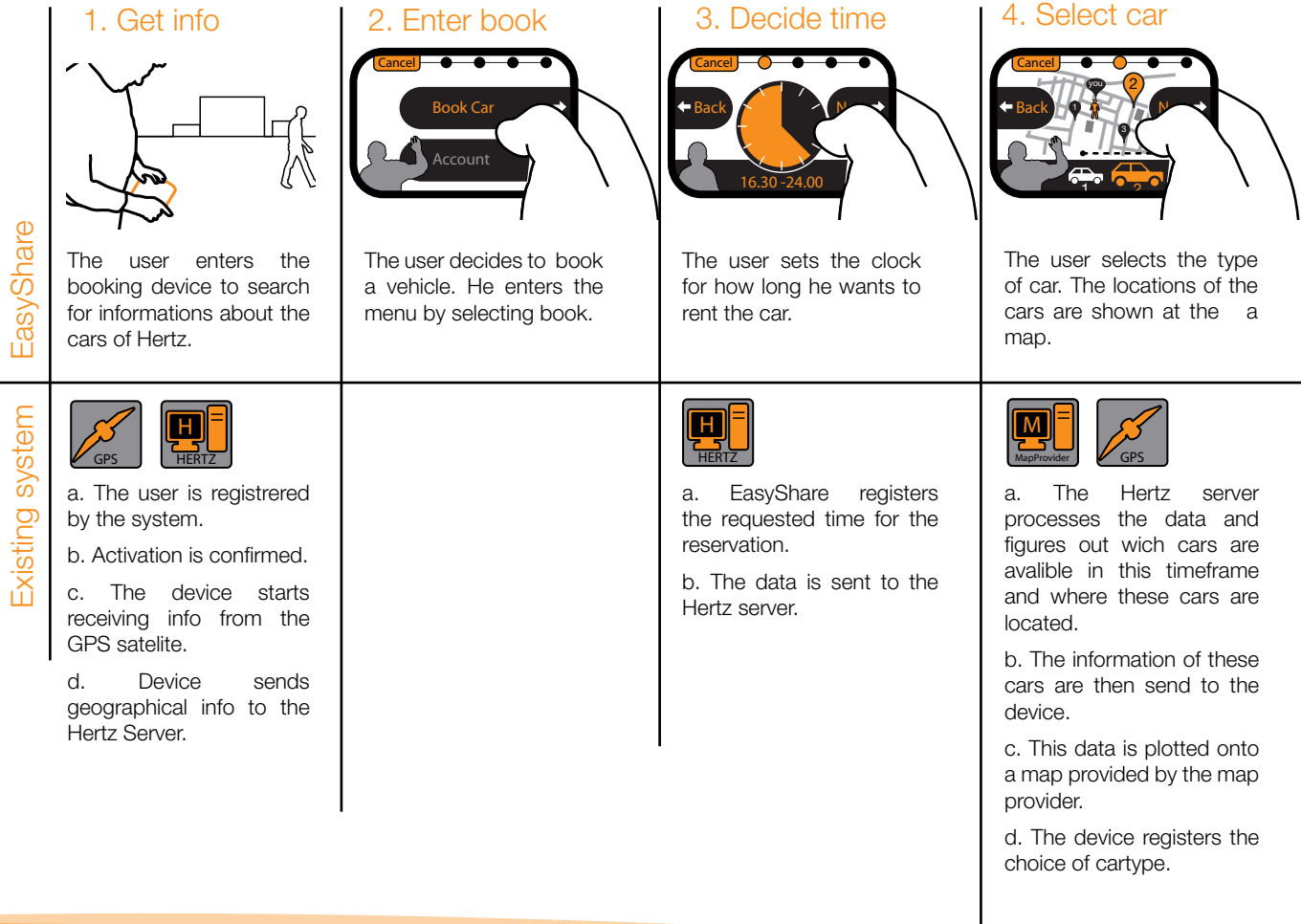
Use case booking

The use case describes the user interaction with the system and how the system is affected.

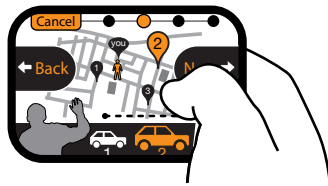
20 The illustration is divided by a line that distinguishes between user interaction with the front office and actions in the back office. The actors that are being used are marked by an icon. In both cases the main interaction is an exchange of data that leads to actions.



ill. 7.1. Legend for the usecase.



5. Select location



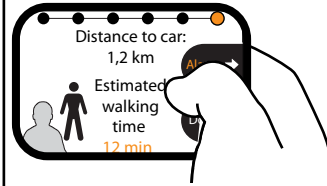
The user selects one of the available cars.

6. Confirmation



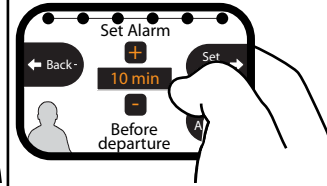
The user confirms the reservation of the car.

7. Planning



Informations about the bus departures are presented to the user.

8. Departure



The user chose to activate the alarm and the alarm informs the user when it is time to go to the bus.

9. Departure



The user takes off with the bus to the car sharing car. Using the device for navigation to the destination.



- a. The device shows the cars that match the criteria set by the user within a specific radius of the user.
- b. The device registers the choice of car and sends booking info, including user info to the Hertz server.
- d. Hertz server, acquires and processes the data, pre-books the car and requests confirmation.



- a. The device registers the confirmation.
- b. The device send the confirmation to the Hertz server.
- c. The Hertz server sends a booking information to the selected car.
- d. Car locked to specific user.



- a. The device connects to Rejseplanen database.
- b. The device send data to Rejseplanen about time and location.
- c. The Rejseplanen database match the data with departure/arrival data. and returns options of how to get to the desired location.



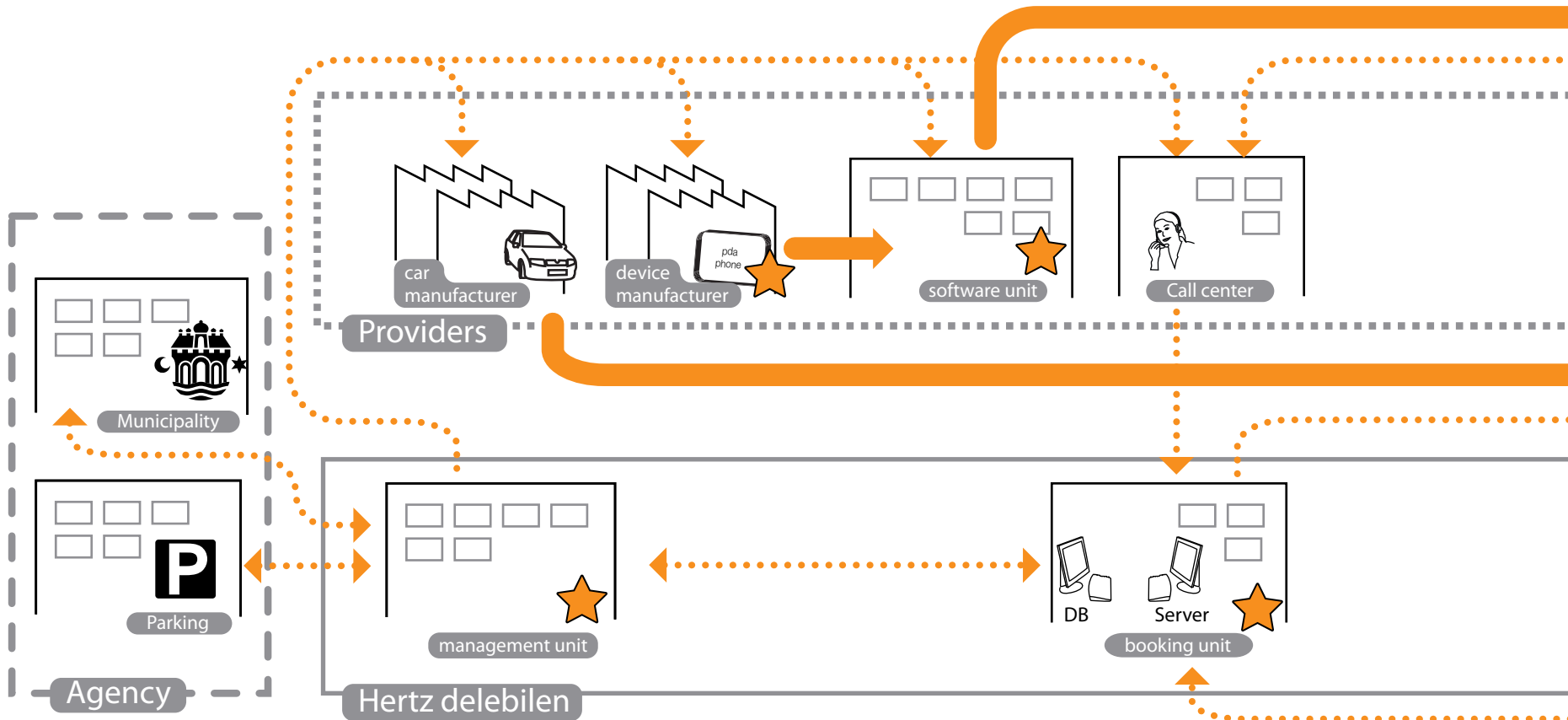
- a. The device activates an alarm function.
- b. The time of departure is calculated according to the data from Rejseplanen.
- b. A countdown function is activated.
- c. The alarm goes of when it is time to go.

- a. The device now functions purely as a GPS unit, reciving geographical coordinates displaying the route on the device using the map provider.

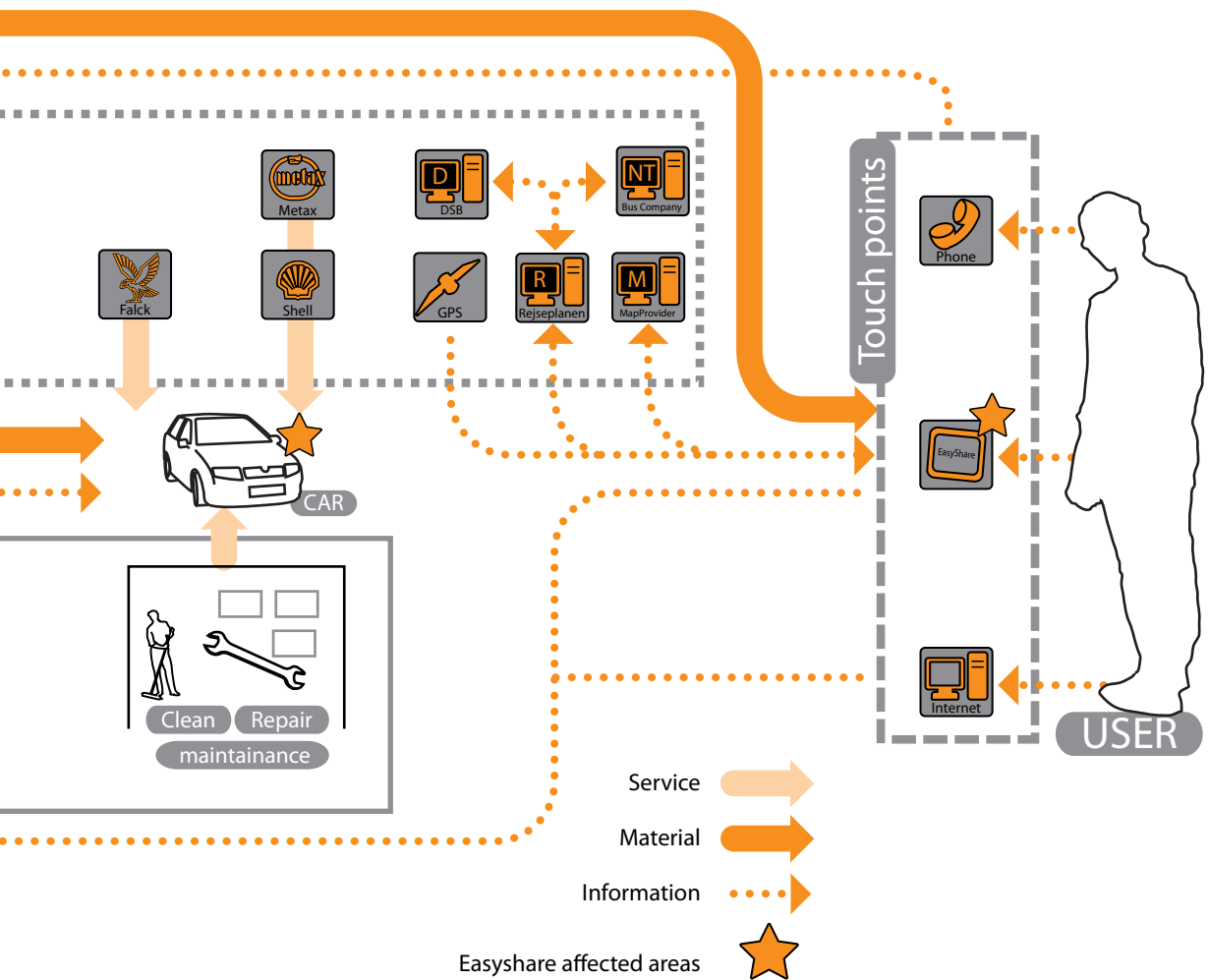
Units and actors of Hertz Delebilen

The systemic map show the main relations between the units and actors of Hertz Delebilen after the implementation of EasyShare.

22



ill. 8.1. A systemic map of Hertz Delebilen after the implementation of EasyShare. The areas EasyShare influence is marked with a star. The illustration does not include the moneyflow.



Hertz Delebil

Hertz Delebil consists of a management unit and a booking unit. The booking unit is made a part of Hertz Delebil but can be an outsourced unit. The systemic map is a simplification of the information and material flow between the units of Hertz Delebil.

EasyShare

EasyShare is a new contact surface between the user and Hertz Delebil and has an impact on the software unit and the booking unit of Hertz Delebil. EasyShare is managed by the management unit and is mainly in contact with the booking unit of Hertz Delebil. EasyShare is a subunit to other units, but could over time be the main booking unit of Hertz Delebil.

Impact

The influence EasyShare has on the actors of Hertz Delebil is mainly to be seen in the provider section and in the touch points between the user and Hertz Delebil. The implementation of EasyShare does not have a large impact on the structure of the information flow between the units of Hertz Delebil because the main units of Hertz Delebil are outsourced.

Units and actors of EasyShare

The main units of EasyShare are described after the implementation of EasyShare to Hertz Delebilen. The system is described according to the role of the actors and the actions of the units.

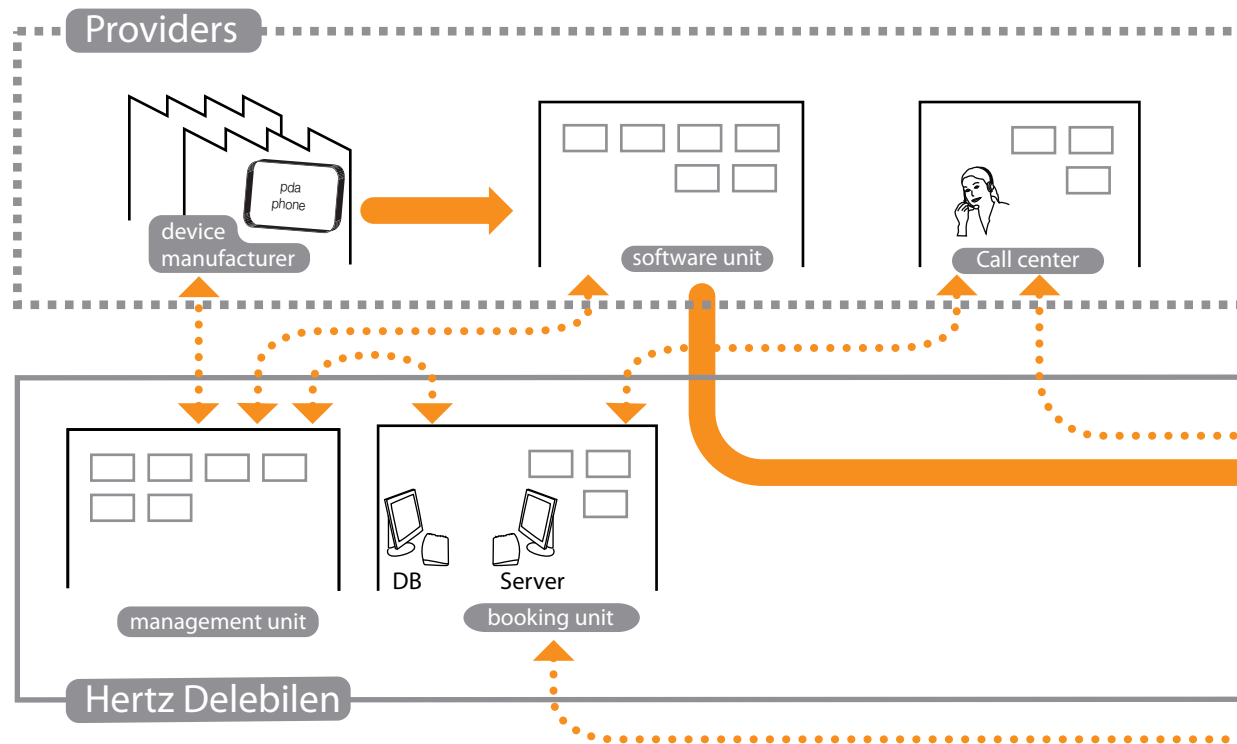
24 The diagram shows the part of Hertz Delebilen that concerns EasyShare. New actors are added but EasyShare does not change the main structure of Hertz Delebilen. It means that EasyShare is feasible to be applied, removed or changed without affecting the structure of Hertz Delebilen.

Booking unit

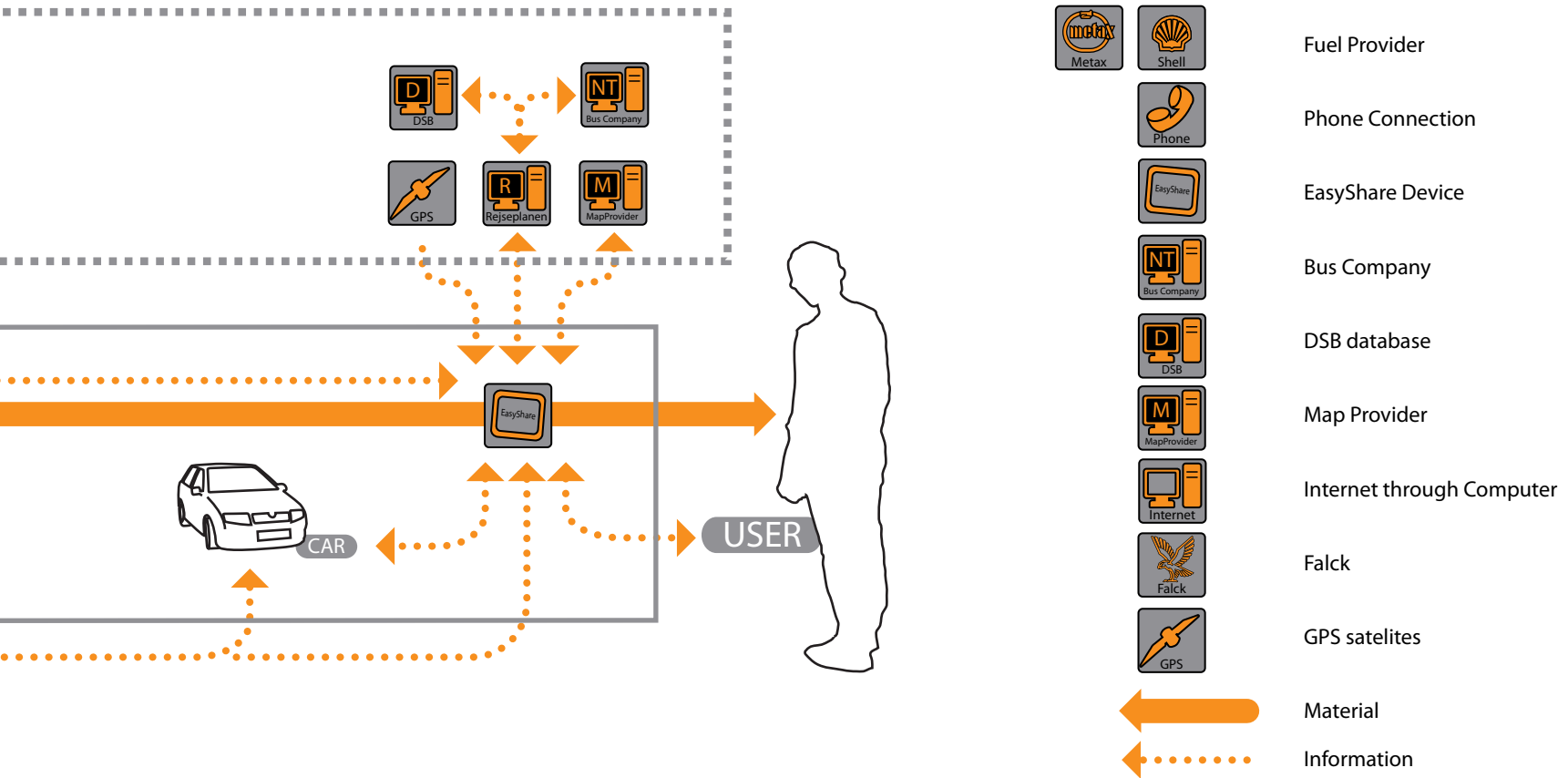
The booking unit consists of servers and databases. The unit is a part of Hertz Delebilen. Here user data is gathered in a database and the booking requests are received from the homepage, the call centre and EasyShare. Requests and information are compared with available cars. The unit also releases and locks cars.

Management unit

The management unit contains the administration of Hertz Delebilen. The unit manages EasyShare and has the contact to external providers.



iii. 8.2. The structure of EasyShare. The data exchange and the flow of material is shown.



ill. 8.3. The legend of the systemic maps.

Outsourcing

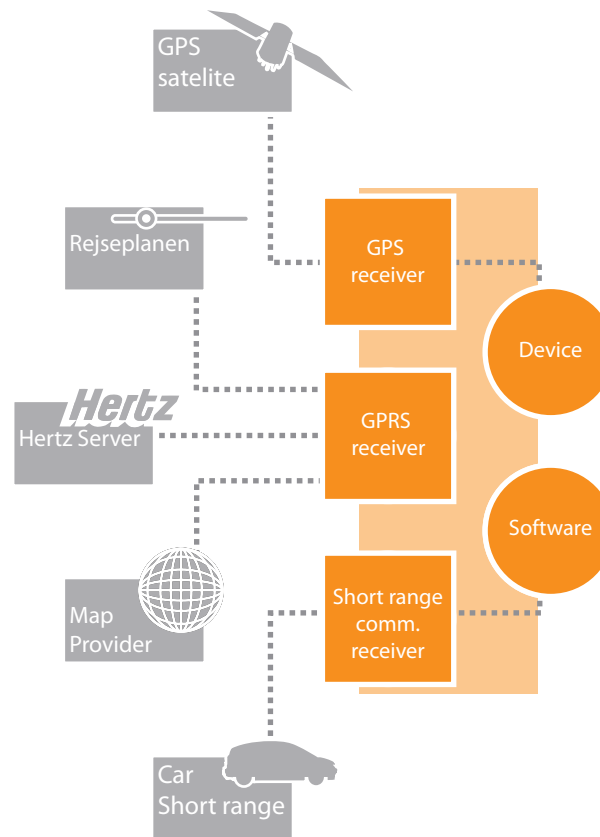
The chapter presents the modules of the EasyShare service.

- 26 EasyShare can be divided into a modular structure of separate modules. It can offer flexibility to the system of EasyShare when modules are outsourced to companies that are dedicated and focused at these specific areas.

The core functionality of EasyShare is the software of the system that is required by the service and the device. The development of the software is a typical module to outsource to dedicated companies. A possibility is for Hertz Delebilen to start up a software department inside the company for developing and updating the software, but costs will be high compared to the costs of a dedicated software company.

In order to succeed the outsourcing, the basic requirement is to have a clear separation of the modules. Furthermore, in the research of the appropriate collaboration, a market investigation should be carried out, in order for Hertz to choose a partner that will fulfill company's requirements. It is of interest that the company is connected in such a way that it is easily replaced, in case a new and better provider comes to the market.

For Hertz Delebilen it would be relevant to outsource most of the modules of the EasyShare system besides the management and the planning of the service.



ill. 9.1. Modules of the EasyShare service.

Input/Output

The chapter describes the input/output related aspects of the EasyShare service.

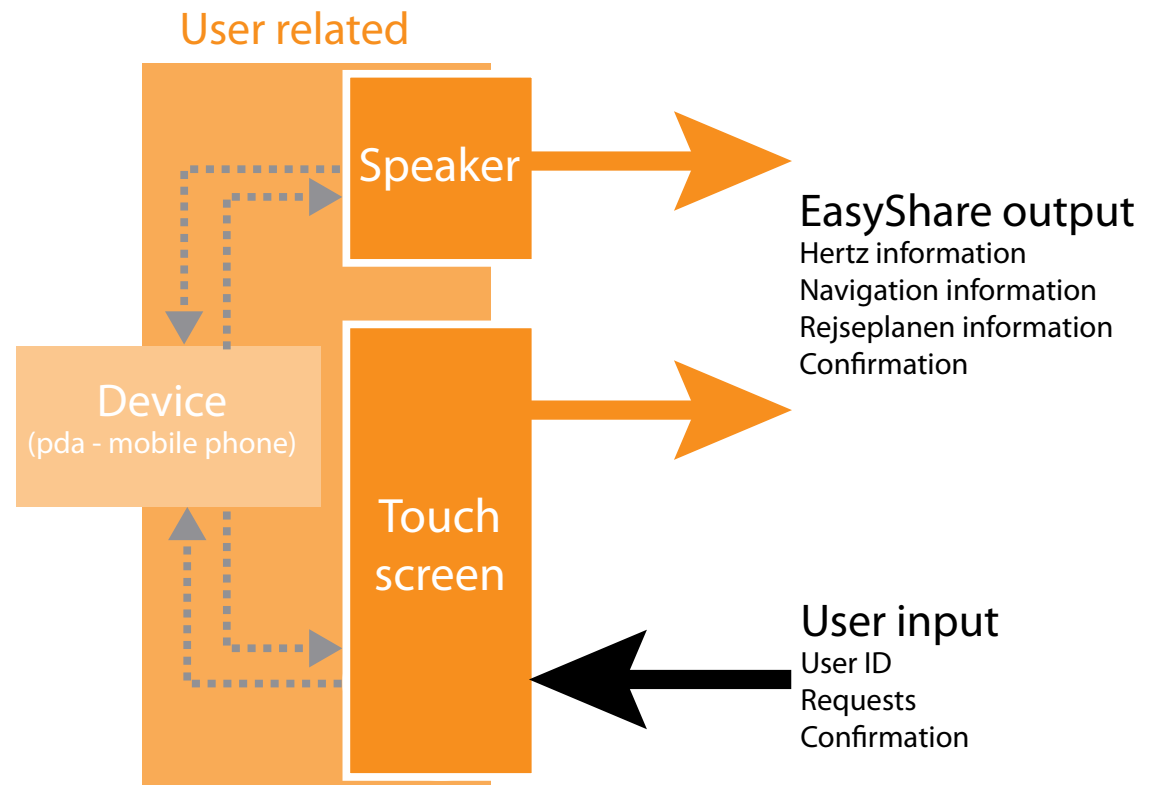
When using the device, the user provides various input to the system. This input is information concerning reservations such as time, preferred car and location and requests of service related subjects such as prices or use of car. Based on the information the system will generate output and feedback for the users such as cars available, locations of cars or a map to guide the users to the car. The device can also assist the users, when they are experiencing problems through a video animated virtual person that talks to the users.

Format

This communication happens in different formats. The input provided by the users is only information typed into the system, whereas the system can reply to the users by information either on the screen or as audio.

Requirements

In order to make this dialog available, some requirements have to be set for the physical platform of the device the EasyShare is running on. The device must be able to handle the input from the user as well as visual feedback from the service. There has been settled for a touch screen to handle this, while the audio requires for a speaker. Since many of the personal electronics people carry are becoming more advanced, it is an option to outsource the service to the private devices the users already have. Of course not all users have electronics that contain the components required, so in some cases Hertz Delebilien should be able to provide hardware that would make the service accessible to those.



ill. 9.2. Modules of the EasyShare device.

Stages of implementation

This spread shows the stages of implementing the EasyShare as a part of Hertz Delebilen in order to have it fully working.

28

Idea Screening

- Reevaluate the ideas and concepts
- Examine what the users thinks of EasyShare
- Evaluate the profitability of the service according to a target price

Development and Testing

- Develop a precise functional interface
- Test interface with the target group
- Reevaluate based on test results

Business Analysis

- Estimate the likely selling price from user feedback.
- Estimate the size of the market
- Determine profitability and breakevenpoint.

ill. 10.1.First part of the timeline.

Beta Testing and Market Testing

- Produce physical prototype with a working interface
- Test service in the typical usage situations
- Do the final adjustments
- Perform initial run in a test market

Technical Implementation

- Prepare cars and servers for implementation of the service
- Recalibrate departments to be able to assist the service
- Make agreement with the actors and suppliers
- Make safety precautions using "what-if" planning

Commercialization

- Start production of advertisements
- Launch the service
- Distribute advertisements and promote service to get the awareness

ill. 10.2. Second part of the timeline.

The stages are based on the NPD-model* (New Product Development) for bringing new products or services to the market. Though some parts the stages have already been examined during the project, they are here used as reminders for subjects to examine if the project should be carried out by Hertz Delebilen.

Throughout the implementation, the company should be aware of bottlenecks and challenging steps that need to be passed.

Two of the essential bottlenecks are based on economics. The first has to do with financing the development and launch of the service. As Hertz Delebilen is only a small department, this may be financed by Hertz, as their other car sharing departments could benefit from it later, or some of the actors included who would also benefit from the project.

The second bottleneck is based on the market, and whether it is too slim for Hertz Delebilen to make profit of this service. In order to have the service running by itself it will need a certain amount of users to finance the cost of maps and the various expenses connected to the service.

Finally it is essential to be aware of the dynamic platform in the rest of the service development, to keep EasyShare modular and capable of adapting new features easily. This is also beneficial if an actor leaves the project, so a replacement can be found.

* http://en.wikipedia.org/wiki/New_product_development

Reflection

As a service

The chapter is an evaluation of the EasyShare from the user point of view, arguing the qualitative improvement of the service.

- 30 The user experience of the service is important regarding the success of the service. The values according to the user experience are in the project clarified as keywords for the interaction vision and the value mission. The evaluation will indirectly be based upon the keywords.

Needs of the target group

The goal of EasyShare is to provide a service within Hertz Delebilen that is targeted at the elderly group of the society. The intention is to make car sharing attractive and accessible to the target group to fulfil the need flexibility and freedom that a car can provide. EasyShare relates to the elderly by being simple to understand and use and be providing audio and visual guidance, when the elderly user has the need for it pre during and after having used the car.

Functionality

Some of the barriers relating to the target group in the present booking service of Hertz are the complexity of the homepage, difficulties by locating the car in the city and at the parking spot and the need for planning how to go to the car. The main features of EasyShare relates to these barriers. The features are to have a simple layout of the interface that is fitted to small screens, to make it possible to book a car through a portable device and to have a GPS navigator included that guides the user to the location. It means that the elderly do not need help by booking. They do not need to consider how to get to the car or look at maps for the location for the car, because the device provides the elderly with a route plan and visual navigation. The support the service of EasyShare gives the elderly is a sense of freedom by being independent from other people.

Interface

The layout of the interface is in the report presented as guidelines for the functionality of each page. If the guidelines are followed the steps the user has to do to book a car is reduced to a minimum, which makes it possible to overview the booking procedure as an elderly person. But for the booking service to be complete, guidelines for how to book a car a day or a month ahead needs to be made.

Conclusion

Based on the cultural analysis, the features of EasyShare seem relevant and fulfilling for the needs of the elderly. It is evaluated that EasyShare through further development can be a service that makes car sharing attractive and available to the elderly segment of the society.

As a system

The chapter is an evaluation of the EasyShare from Hertz Delebilen's point of view.

The motivation for Hertz Delebilen to start a service as EasyShare is to get more costumers, gain profit and strengthen their profile as a company in Aalborg.

Development

Before Hertz Delebilen can benefit from EasyShare, the service has to be developed further and Hertz Delebilen needs to determine which units can be outsourced in order to reduce the expenses. The stages in the implementation chapter describe a development of EasyShare according to what Hertz Delebilen needs to do to be able to launch the service. The profitable solution for Hertz will probably be that Hertz Delebilen controls the software but the programming and various functionalities of the service is outsourced to suitable providers.

Financial support

Because of the size of the company it will probably be necessary for Hertz Delebilen to get an extra income to be able to develop and finance EasyShare. As mentioned in the process report the municipality and providers of devices may have an interest in being a part of the market that the service covers. The resources to be able to develop and possibly maintain EasyShare could also be financed by the municipality and the providers of the device along with a raise in the membership cost for the users of EasyShare.

Levels of EasyShare

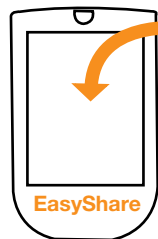
The use of EasyShare requires a portable device with a touch screen to gain maximum effect of the service. This is a requirement for the interface to make the service relate to the elderly users, but the service can also relate to other users that can settle with a less technological product as an older mobile phone and a different navigation system. It is therefore a possibility for EasyShare to offer memberships corresponding to different levels of technology. The levels could be made as a high level including a recommended PDA and EasyShare software, a medium level including the software for a PDA and a low level with EasyShare software adaptable to mobile phones with no touch screen. An opportunity is also to apply the guidelines for the interface to the homepage of Hertz Delebilen to make internet booking similar to the EasyShare booking.

Conclusion

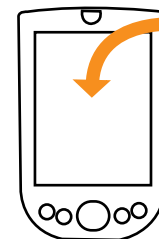
Launching EasyShare at different membership levels is a good way to organize the service, since it will be cheaper to supply, and people could implement it to the devices they already carry along.

The outcome and profitability of EasyShare is of course dependent on the number of customers signing up for the service. As no market analysis or user testing has yet been performed it is hard to tell whether the majority of potential users will be interested and sign up for the service.

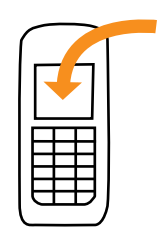
However, if this way of booking turns out as a success, it will take car sharing to a new and more dynamic level, and mark out Hertz Delebilen as they are the only provider of this type of booking service in Denmark. Hertz might then also be interested in implementing the service to the other car sharing departments they have in the rest of the world.



ill.11.1. High level of EasyShare with device included.



ill.11.2. Medium level of EasyShare, only PDA software.



ill.11.3. Low level of EasyShare, as software for regular phones.